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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,897	05/24/2001	Thomas Zwick	82262	6604

24628 7590 07/13/2004

WELSH & KATZ, LTD  
120 S RIVERSIDE PLAZA  
22ND FLOOR  
CHICAGO, IL 60606

EXAMINER

JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/786,897

Applicant(s)

ZWICK, THOMAS

Examiner

Alexander Jamal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to amendment*

1. Based upon the submitted amendment (May 18, 2004), examiner acknowledges that claim 8 has been cancelled.
2. Applicant's arguments with respect to **claims 1-7** have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-7** rejected under 35 U.S.C. 103(a) as being unpatentable over Scott et al. (5870046).

As per **claim 1**, Scott discloses a device for the DC decoupled connection of a telephone line to a signal processing device (modem) that may be connected via the telephone line (as per Fig. 1) to the public phone system (Fig. 1). The device may

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comprise a first circuit (circuitry 226 in Fig. 2) connected to the telephone line (as per Fig. 1), and a second circuit (circuitry 225 in Fig. 2) connected to the signal processing device (encoder 213 in Fig. 2). Circuit 1 may comprise hybrid circuitry (decoder 708, encoder 712, A/D 711 and D/A 709 converters in Fig. 7) to separate the signals of the telephone line (bi-directionally) (reference 736, 740 in Fig. 7) in a first signal path from the telephone line to the signal processing device, and in a second processing path extending from the signal processing device to the telephone line or 'bidirectional' (Col 16 lines 1-16 and lines 35-50). The device further comprises isolation barrier 120 (Fig. 1). Scott's circuit is designed to bi-directionally transmit signals in both signaling paths in a TDM method that is coupled by the transformer in both directions (Col 16 lines 36-50, Col 17 lines 4-12). However, Scott does not specify that a transformer configured to provide isolation between primary and secondary windings is used as the DAA.

Scott specifies that prior systems could use transformers, capacitor or optical means (Col 1 lines 36-67) to provide isolation. Since a transformer provides DC isolation, the transformer would be configured with the primary winding coupled to the first circuit and the secondary winding coupled to the second circuit with the first and second windings being DC decoupled from one another. Scott also teaches that there are tradeoffs between using different types of isolation devices. For example, transformers may be larger or costlier, but capacitors may be susceptible to component mismatches or noise coupling into one side (Col 2 lines 10-65). It would have been obvious to one of ordinary skill in the art at the time of this application that optical, transformer or capacitor means could have been chosen as the bi-directional isolation barrier (as a design tradeoff)

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for the purpose of allowing the circuit to be designed to optimize a particular parameter (such as cost or noise immunity or component tolerance ect).

As per **claim 2**: In Scott's device, the first circuit comprises (in Fig. 7) an A/D converter 711 that follows the hybrid circuit via encoder 712 in the first signal path, and D/A converter 709 that follows the second signal path and precedes the hybrid circuit via decoder 708.

As per **claim 3**: The output of A/D converter 711 (Fig. 7) and the input of D/A converter 709 are connected to a first signal digital multiplexer (Encoder 712 and Decoder 708) that is coupled to the first side of isolation barrier 705 via driver 713. The isolation barrier may be the first winding of an isolation transformer (Col 1 line 56 to Col 2 line 4).

As per **claim 4**, the first multiplexer is operated such that the first and second signaling paths are alternatively connected to the isolation barrier (which may be a transformer) (Col 16 lines 16-35).

As per **claim 5**, the second circuit comprises a multiplexer (Encoder 702, Decoder 714 in Fig. 7) that is connected to the secondary side of the isolation barrier that may be a secondary winding of a transformer (Col 1 line 56 to Col 2 line 4).

As per **claim 6**, the second circuit comprises oscillator circuit 704 (Fig. 7) that provides the clock for the second multiplexer circuit.

As per **claim 7**, the first multiplexer (Fig. 7) comprises clock recovery circuit 707 that recovers the clock signal from oscillator 704 and provides it to the first circuit (Col 15 line 59 to Col 16 line 16).

### ***Response to Arguments***

1. Applicant's arguments filed May 18, 2004 have been fully considered but they are not persuasive.

As per applicant's argument regarding the Scott reference comprising a 'digital signal processing device' as specified in **claim 1**, Scott discloses (in Fig. 2) digital signal processing circuitry (encoder 213, decoder 217) on both sides of the isolation barrier (capacitors 209,210). Scott's system performs bi-directional transmission of data in a TDM format (as per applicant's claim 1) (Col 16 lines 36-50, Col 17 lines 4-12). Examiner reads 'digital signal processing circuitry' as any circuitry that processes digital signals. Scott discloses an isolation barrier that couples digital signal processing circuitry to a telephone line (his device may be used in telephony: ABSTRACT).

As per applicant's argument regarding the use of a transformer as the isolation device in Scott's system, please refer to the 35 U.S.C. 103 rejection to claim 1 above.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ  
June 30, 2004

  
CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
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